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Contraceptive Use Dynamics In Indonesia

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Contraceptive Use Dynamics
In Indonesia

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Introduction

Contraceptive discontinuation, switching and failure become increasingly important issues as populations reach relatively high levels of contraceptive use. The focus of family planning programs shifts from encouraging couples to adopt contraception to encouraging them to maintain use and providing them with contraceptive options to meet their needs. Knowledge of the reasons women discontinue use of contraceptive methods will give a better understanding of the problems experienced with different methods and provide greater insight into patterns of contraceptive use. This in turn will highlight areas that need to be addressed by policymakers in maintaining high levels of contraceptive use and meeting the needs of users. Relatively few analyses of contraceptive use dynamics exist for developing countries. However, as more and more countries achieve high levels of contraceptive prevalence, such analyses are becoming increasingly important for family planning policymakers.

One reason for the lack of such studies is that the data required are not often collected. The calendar section of the Demographic and Health Survey (DHS) A-core questionnaire is specifically designed to meet this data need. A DHS survey was conducted in Indonesia in 1994. The questionnaire included a detailed contraceptive use calendar. Information from the calendar can be used for in-depth analyses of contraceptive use dynamics. These issues are of great interest in Indonesia where contraceptive prevalence among married women age 15-49 stood at 55 percent in 1994, in large part due to a very successful family planning program. Clearly, analysis of contraceptive discontinuation patterns and switching behavior are of considerable relevance to future program objectives.

This report is based on the DHS Model Further Analysis Plan on Contraceptive Use Dynamics (Curtis and Hammerslough, 1995). The analyses use data from the 1994 Indonesia DHS survey. The main aim of this report is to provide a comprehensive, descriptive analysis of contraceptive discontinuation, switching, and failure in Indonesia that is of interest to policymakers and researchers. The structure of this report is as follows: Background, Data and Methodology, Contraceptive Discontinuation Rates, Discontinuation Rates by Reason for Discontinuation, Contraceptive Switching Behavior, and Contraceptive Failure Rates. The report concludes with a discussion of the main findings and their policy significance.

Background

Geography

Indonesia is located between the continents of Asia and Australia. It is bounded by the South China Sea in the north, the Pacific Ocean in the north and east, and the Indian Ocean in the south and west. The country is composed of approximately 17,000 islands, which are located between 6 degrees north and 11 degrees south latitude, and between 95 to 141 degrees east longitude. About 2,000 of the islands are inhabited; the five major islands are Sumatra, Java, Kalimantan, Sulawesi and Irian Jaya. The total land area is about 1.9 million square kilometers; more than 80 percent of the territorial area is water.

Population

According to the 1990 Population Census, the population of Indonesia was 179.2 million in 1990 (CBS, 1992). The size of the population ranks Indonesia as the fourth most populous country in the world. The 1971 and 1980 censuses showed that the population increased from 118 million in 1971 to 147 million in 1980, with an annual growth rate of about 2.3 percent. However, between 1980 to 1990 the population growth rate declined to 2.0 percent.

Population density in Indonesia varies markedly among the regions. Two-thirds of the population live in Java-Bali, which only covers about 7 percent of the land area. According to the 1990 Population Census, the population density in Java-Bali is about 814 persons per square kilometer. In contrast, the national population density is 93 persons per square kilometer. Between 1980 and 1990, the total fertility rate (TFR) of Indonesia declined sharply from 4.7 to 3.3. According to the 1994 Indonesia Demographic and Health Survey (1994 IDHS), the TFR has declined further to 2.9.

Family Planning Program and Policy

The family planning program in Indonesia is a model of government sponsored fertility control in developing countries. The government has provided political, administrative, legal, and budgetary support. Family planning activities were introduced in Indonesia in 1956 by a private organization working under the support of the International Planned Parenthood Federation (IPPF). However, at that time family planning activities faced opposition from the government and some religious leaders.

In 1957, the Indonesian Planned Parenthood Association (IPPA) started the family planning movement in Indonesia by providing family planning advice and services. The IPPA hoped that the economic plan would contain some reference to birth control for health reasons, since they believed family planning would never be accepted on economic grounds. In 1968, the government established the National Family Planning Institute, which two years later was reorganized as the National Family Planning Coordinating Board (NFPCB). After the NFPCB was founded, the government—with support from community leaders—demonstrated a strong commitment to strengthening the family planning program.

The family planning program was not introduced simultaneously in all parts of the country. It was implemented over three 5-year periods in three different regions: Java-Bali, Outer Java-Bali I, and Outer Java-Bali II. The family planning program began in 1969 in Java-Bali, which consists of 6 provinces. Five years later, the program was expanded to include the Outer Java-Bali I region, which consists of 10 provinces. Finally, in 1979 the program was expanded to the remaining 11 provinces making up the Outer Java-Bali II region.

Evaluation of the family planning program in Indonesia has been conducted through the decennial population censuses and several national surveys, in addition to the program reporting and recording systems that have been developed. These surveys include the 1976 Indonesia Fertility Survey, the 1987 National Indonesia Contraceptive Prevalence Survey (1987 NICPS)—which was the first DHS survey carried out in Indonesia—the 1991 Indonesia Demographic and Health Survey (1991 IDHS), and the 1994 Indonesia Demographic and Health Survey (1994 IDHS).

The 1994 IDHS found that contraceptive prevalence has reached 55 percent. The method-mix is dominated by use of the pill (17 percent), injectables (15 percent), and the IUD (10 percent). Other modern methods such as implants, condoms, and intravaginal methods, are not widely used, while traditional methods such as periodic abstinence, withdrawal, herbs, and massage are used by just 3 percent of women (CBS et al., 1995).

Data and Methodology

Data

This analysis uses data from the 1994 Indonesia Demographic and Health Survey (1994 IDHS). The survey was a collaboration between the State Ministry of Population/NFPCB, the Indonesian Central Bureau of Statistics, the Ministry of Health, and Macro International Inc. It is a part of the worldwide Demographic and Health

Surveys (DHS) program, which has implemented surveys in more than 50 developing countries in Africa, Asia, the Near East and North Africa, and Latin America and the Caribbean.

The 1994 IDHS was carried out between July and November 1994. The 1994 IDHS sample is a subsample drawn from the annual National Socio-economic Survey (Susenas) conducted in 1994. Selection of the 1994 IDHS sample was done using a three-stage sampling procedure. The first stage systematically selected enumeration areas in urban and rural domains in each province. The second stage selected a segment (approximately 70 contiguous households) or group of segments from each enumeration area with probability proportional to the number of households in the segment. Finally, 25 households were systematically selected from each segment.

The number of households successfully interviewed was 33,738 (95 percent of the total selected households), while individual interviews were carried out with 28,168 ever-married women age 15-49.

Four types of questionnaires were used in the 1994 IDHS, three at the household level and one at the community level. The three at the household level were the household questionnaire, the individual questionnaire, and the household expenditure questionnaire. The household and individual questionnaires were adapted from the DHS Model "A" core questionnaire, which was designed for countries with high contraceptive prevalence. The individual questionnaire was divided into 10 sections: 1) Respondent's background, 2) Birth history, 3) Knowledge and practice of family planning, 4) Maternal care and breastfeeding, 5) Immunization and health of children under 5 years, 6) Marriage, 7) Fertility preferences, 8) Husband's background and respondent's employment 9) Knowledge of AIDS, and 10) Maternal mortality. Data on monthly contraceptive use, and pregnancy status, discontinuation of contraceptive use, marital status, and breastfeeding status were collected using the monthly calendar for the last five years (retrospectively).

The calendar supplements the interview questionnaire in several ways. It provides a framework for resolving inconsistencies in birth dates, breastfeeding durations, and segments of contraceptive use or nonuse. The DHS calendar provides a box for every month in the five calendar years before the survey. The data on monthly contraceptive use and pregnancy status, reason for discontinuation of contraceptive methods, marital status, and breastfeeding status are collected in separate columns. The calendar makes it possible to identify precisely the timing of events in relation to one another, for example, contraceptive use and weaning of a child.

This analysis of the calendar data uses the information on contraceptive use (column 1) and reason for discontinuation of contraceptive use (column 2). Since the calendar data provide monthly information, it is possible to determine segments of contraceptive use and segments of nonuse of contraception. A *segment of use* is defined as an uninterrupted period of use of an individual contraceptive method, while a *segment of nonuse* is an uninterrupted period in which the woman is not pregnant and is not using a contraceptive method. The calendar data covered a 69-month period prior to the survey, but only a 60-month period is used in this analysis. Left truncated observations—defined as observations that start before the observation period covered by the analysis and continue into it—are not included, because the duration of these segments is unknown. The three months prior to the survey are excluded from the observation period to allow for underreporting of first trimester pregnancies.

A program called CAL2SPSS—provided in a package of programs that accompany the DHS Further Analysis Plan—is applied to set up the calendar data in the format required for the analysis. Each record corresponds to a segment of contraceptive use or nonuse and includes the following variables: woman's ID, woman's sample weight, the method used in that segment (including no method), the reason for discontinuing use (not applicable for segments of nonuse), the woman's reproductive status in the month immediately before initiation of the segment, the number of births the woman had following the segment, and the date of the first month of the segment as a century month code (CMC). A total of 15,453 segments of use were extracted from the calendar.

Analysis of Data Quality

All retrospectively reported data are subject to various types of error and the calendar data collected by DHS surveys are no exception. Recall errors due to memory lapses, duration heaping, and event omission (both deliberate and accidental) are common problems and can bias the results of even the most careful analysis. Therefore, evaluation of data quality is a crucial stage of the analysis.

One powerful test for omission of periods of contraceptive use is to compare the data in the calendar with data from an external source. Some of the countries with calendar data also have an earlier survey within the period covered by the calendar. The current status data on contraceptive use from the earlier survey can then be compared with the calendar data in the later survey for the corresponding time period (external consistency check).

Table 1 is derived to detect omission of segments of contraceptive use through comparison of the 1994 IDHS calendar data with current status data from the 1991 IDHS. The 1994 IDHS sample was restricted to exclude women under the age of 18 at the time of the 1994 IDHS survey since these women would have been under 15 years at the time of the 1991 IDHS survey. The sample used from the 1994 IDHS survey, therefore, corresponds approximately to women age 15-47 in 1991.

Table 1   Percentage of currently married women using each method of contraception at the time of the 1991 IDHS, based on calendar data from the 1994 IDHS survey and current status data from the 1991 IDHS survey, Indonesia

Method	1994 IDHS Calendar Data for Women Age 15-47 in 1991	1991 IDHS Current Status Data for Women Age 15-49
No method	55.4	50.3
Pill	13.8	14.8
IUD	11.4	13.3
Injectables	10.0	11.7
Implant	2.6	3.1
Intravag/foam	0.0	0.0
Condom	0.7	0.8
Female sterilization	2.3	2.7
Male sterilization	0.3	0.6
Periodic abstinence	1.4	1.1
Herbs	0.6	U
Massage	0.2	U
Withdrawal	0.7	0.7
Other	0.6	0.9

U = Unknown (not available from survey data)

Table 1 indicates that the contraceptive prevalence estimated from the 1994 IDHS calendar data is slightly lower than that obtained from the 1991 IDHS current status data, but the difference is small and both estimates are subject to sampling errors. There is also close agreement in the prevalence of individual methods. Hence, this analysis provides no evidence of omission of segments of contraceptive use in the calendar data.

Another concern is heaping of the duration of segments of use and nonuse on popular values such as 6, 12, 18 or 24 months. Figure 1 illustrates moderate heaping at 12 and 24 months duration. Since the level of heaping is modest, it is unlikely to affect the quality of the estimated contraceptive discontinuation rates to any great extent, although some underestimation of 12-month discontinuation rates is possible.

Figure 1.   Distribution of reported duration of segments of use and nonuse in the 1994 IDHS calendar, Indonesia, 1994
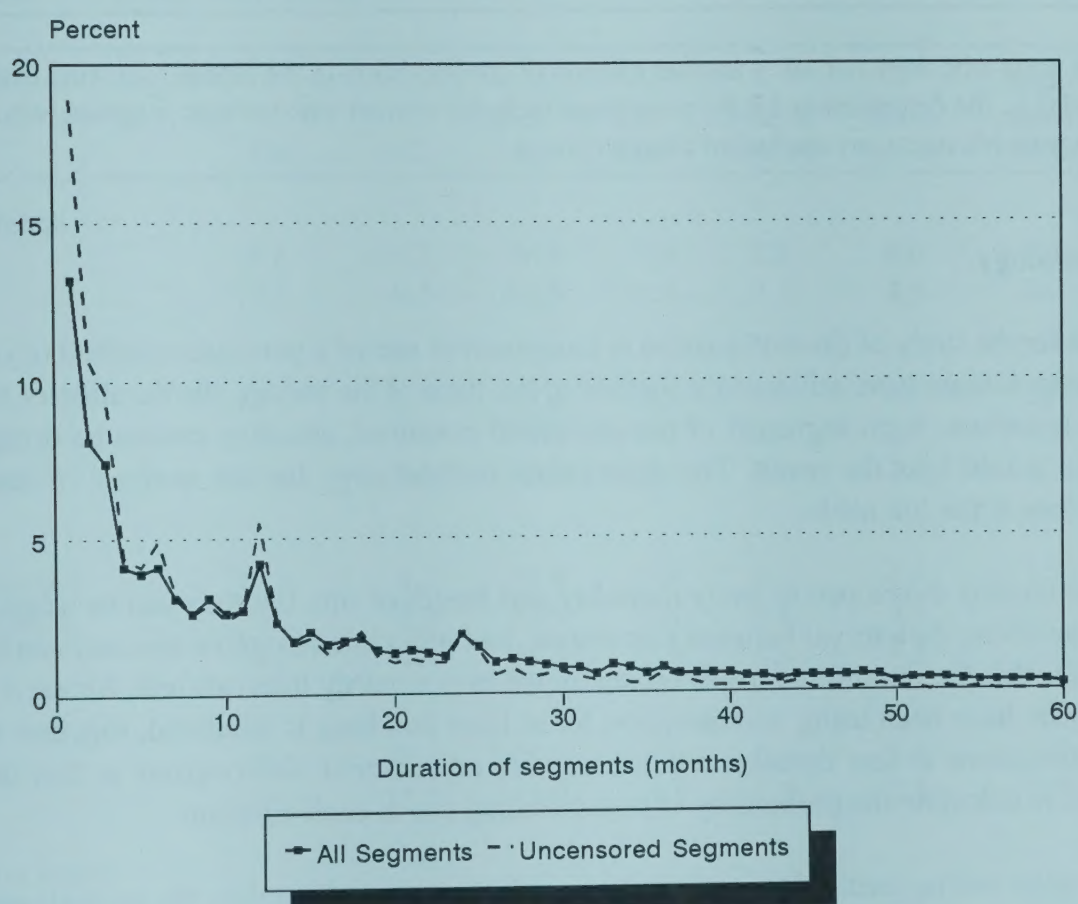
Some women may be embarrassed to report a contraceptive failure and may report the pregnancy as intended. Such reporting behavior could result in an unusually high prevalence of pregnancies in the month after discontinuation. Underreporting of contraceptive failure through retrospective rationalization may be detected by a cross tabulation of completed use intervals by reason for discontinuation and prevalence status immediately after discontinuation (see Table 2). Among 1,069 users who reported a pregnancy in a month after discontinuation, 806 reported that they experienced a contraceptive failure. About 12 percent of users who discontinued use in order to get pregnant reported themselves as pregnant in the following month. Only 5 percent of users who discontinued use for other reasons and did not use another method immediately reported they were pregnant in the month after discontinuation. These pregnancy rates are plausible and do not indicate that failures are misreported as discontinuations for other reasons.

Table 2 Distribution of discontinued segments of use by reason for discontinuation and status in the month after discontinuation, Indonesia, 1994

| Reason for discontinuation | Status in the month after discontinuation | | | | | Percentage of exposed women who became pregnant[1] |
	Pregnant	Termination	Not using method	Using another method	Total	
Contraceptive failure	806	21	0	1	828	99.9
Desire to get pregnant	197	0	1,498	0	1,696	11.6
Other reason	66	3	1,428	2,105	3,602	4.6
Total	1,069	24	2,927	2,106	6,126	27.2

[1]Exposed women are users who were not using another method of contraception in the month following discontinuation of their original method (i.e., the denominator for the percentage includes women who became pregnant, who experienced a termination, or who were not using any method of contraception).

Life Table Methodology

The unit of analysis for the study of discontinuation is a segment of use of a particular method of contraception. However, since many women were still using a method at the time of the survey, the duration of that particular segment of use is unknown. Such segments of use are called *censored*, and they cannot be dropped from the analysis since this would bias the result. The appropriate methodology for the analysis of data containing censored observations is the *life table*.

Life tables were originally developed to study mortality and length of life, but they can be adapted to study a range of problems involving the interval between two events, including contraceptive discontinuation. The basic idea of the life table is that the duration of use is broken down into monthly intervals and, for each duration, the number of users who have been using contraception for at least that long is tabulated, together with both the number of discontinuations at that duration and the number of censored observations at that duration. This information is used to calculate the probability of discontinuing use at each duration.

Three types of life tables will be used in this analysis: the single-decrement life table, the multiple-decrement life table, and the associated single-decrement life table. Single-decrement life tables are employed in this analysis to calculate the overall discontinuation rates, while multiple-decrement life tables are employed to calculate the discontinuation rates by reason for discontinuation and status after discontinuation. In addition, associated single-decrement life tables are also employed to obtain the failure rate of contraceptive methods. For further discussion of life table methodology see Namboodiri and Suchindran (1987).

Background Variables in Contraceptive Discontinuation

Selected background variables are used to study differentials in contraceptive discontinuation. These variables are: area of residence, region, age of woman, education of woman, and contraceptive intent. Region of residence may affect discontinuation rates because the family planning program was not introduced simultaneously in the three regions. Women's age may contribute to the decision to use long-term methods or temporary methods and to the motivation to continue use, while education level is likely to affect women's knowledge and understanding of contraceptive methods. Contraceptive intent, i.e., for delaying or preventing births, is likely to be strongly

associated with discontinuation rates. Classification of each background variable is limited to two or three categories to ensure a sufficient number of segments of use to derive the life tables. Region and area of residence are measured at the time of the survey, not at the time that the segment of use was in progress; for most women, this is unlikely to have changed during the observation period. Contraceptive intent refers to intention at the time of use and is based on current intentions for segments of use that occurred in the open birth interval and on the reported status (wanted or unwanted) of the birth closing the birth interval for segments of use that occurred in closed birth intervals.

Table 3 shows the distribution of currently married women by contraceptive method used and background variables, and the number of segments of use by method. The total number of segment of use is 15,453, most of which are of injectables, pill, and IUD use. The differential analysis will be restricted to these three major methods to ensure enough segments of use in each subgroup to derive the life tables.

Table 3   Distribution of currently married women by contraceptive method used and background variables, and number of segments of use, Indonesia, 1994

Background characteristic	Pill	IUD	Inject-ables	Im-plant	Condom/ Intravag	Sterili-zation	Tradi-tional method	Total
Area of residence								
Urban	15.8	12.2	16.8	2.8	2.2	6.0	4.4	60.2
Rural	17.7	9.5	14.6	5.7	0.3	2.8	2.0	52.5
Region								
Java-Bali	16.7	12.1	16.8	5.5	0.9	4.4	2.0	58.4
Outer Java-Bali I	18.8	7.4	11.9	3.7	0.8	2.8	4.0	49.5
Outer Java-Bali II	15.4	6.0	13.6	4.0	0.7	2.1	3.9	45.7
Education								
None/some primary	17.4	8.2	11.9	5.6	0.2	3.4	1.8	48.4
Primary completed	18.8	9.9	17.9	5.8	0.4	3.3	2.1	58.2
Secondary +	14.7	14.6	18.3	2.5	2.6	4.8	5.1	62.6
Age								
15-29	18.4	7.2	21.2	5.8	0.4	0.5	1.5	55.2
30-49	16.2	12.3	11.2	4.3	1.2	5.8	3.5	54.4
Contraceptive intent								
Spacer	16.5	5.9	16.2	4.6	0.4	0.0	2.0	45.6
Limiter	17.8	14.5	14.3	5.2	1.3	7.3	3.3	63.7
Total	17.1	10.3	15.2	4.9	0.9	3.7	2.7	54.7
Number of women	4,484	2,686	3,985	1,278	226	971	704	14,334
Number of segments use	5,190	1,813	5,616	1,246	316	403	869	15,453

Contraceptive Discontinuation Rates

The number of women who are using a contraceptive method at a particular moment in time and the continuity of use will affect the success of the particular method of contraception in preventing unwanted pregnancy and reducing fertility. Contraceptive discontinuation rates become an increasingly important indicator of the success and quality of the family planning program when levels of contraceptive prevalence rise.

The summary measures of contraceptive discontinuation used in this chapter are the life table 12- and 24-month discontinuation rates—which represent the percentage of users who discontinue use of a method within 12 months and 24 months, respectively—and the median duration of use. The life table median is defined as the duration by which half of the users have discontinued use. The median duration of use is presented for different methods, along with 12-month and 24-month discontinuation rates. Differentials in discontinuation patterns by selected background characteristics are explored for all reversible methods combined and for the three major methods: pill, IUD, and injectables.

The 12-month discontinuation rates of all methods (including sterilization) is 26 percent, while the 24-month discontinuation rate is 40 percent (see Table 4). Excluding sterilization, the rates are slightly higher at 27 and 41 percent, respectively. Since the prevalence of sterilization is low, it does not have much effect on discontinuation rates.

Discontinuation rates are particularly high for condom and intravag methods. Half of the segments of use of condom/intravag end within 12 months. In contrast, the discontinuation rates for implants and the IUD are very low, while about a third of the segments of use of the pill and injectables end within a year. Discontinuation is most rapid in the first 12 months of use. The same patterns are seen for the 24-month discontinuation rate. Overall, the median duration of use is more than 30 months. The IUD and implant have a median duration of more than 60 months, while the pill and injectables have a median duration of use of about 27 months.

Table 4 Life table discontinuation rates and median duration of use by method, Indonesia, 1994

Method	12-month discontinuation rate	24-month discontinuation rate	Median duration of use	Number of segments of use
Pill	32.6	46.6	27.4	5,190
IUD	14.9	25.5	60.0+	1,813
Injectables	27.9	46.3	26.5	5,616
Implant	4.4	8.8	60.0+	1,246
Condom/Intravag	50.7	60.0	11.8	316
Traditional method	32.1	53.8	20.9	869
All methods (including sterilization)	25.9	40.1	35.3	15,453
All reversible methods	26.6	41.3	33.4	15,051

Note: The discontinuation rates presented here may differ slightly from those presented in the 1994 IDHS report. This is because SPSS was used in this analysis while ISSA (Integrated System for Survey Analysis) was used to produce the figures in the IDHS report. SPSS and ISSA handle the exposure of censored observations differently.

Figure 2 shows the percentage of users still using at each duration over the first five years of use for the pill, IUD, and injectables. The pill and injectables present a similar pattern of discontinuation. Discontinuation is rapid in the first 6 months of use and levels off somewhat after 24 months, especially among pill users. After 24 months of use, pill users are less likely to discontinue than are injectables users. In contrast, discontinuation of the IUD is slow during the first 12 months of use, and slightly more rapid after 18 months. Figure 2 indicates that the IUD discontinuation rate is much lower than discontinuation rates for the pill and injectables at all durations of use.

Figure 2. Percentage of users still using selected methods at each duration, Indonesia, 1994

Table 5 presents the 12-month and 24-month discontinuation rates and the median duration of use for all reversible methods by background characteristics. The discontinuation rates at 12 and 24 months of use are higher for users who want to delay future births than for users who want to prevent any future births. Spacers are likely to be less motivated to maintain use of contraception than limiters and may discontinue use in order to become pregnant.

The discontinuation rates at 12 and 24 months of use are higher for urban users than rural users. However, the regional differentials are small. Users in Java-Bali have the lowest discontinuation rates at both 12 and 24 months of use. The discontinuation rate at 12 months of use is highest for users in Outer Java-Bali II, while at 24 months the discontinuation rate is highest for users in Outer Java-Bali I. However, the highest median duration of use is in Outer Java-Bali II.

The discontinuation rates at both 12 and 24 months of use have a positive association with the level of education of users: discontinuation rates increase as the level of education increases. This may reflect the fact that users who have higher levels of education are usually young, get married later, and are likely to be spacers.
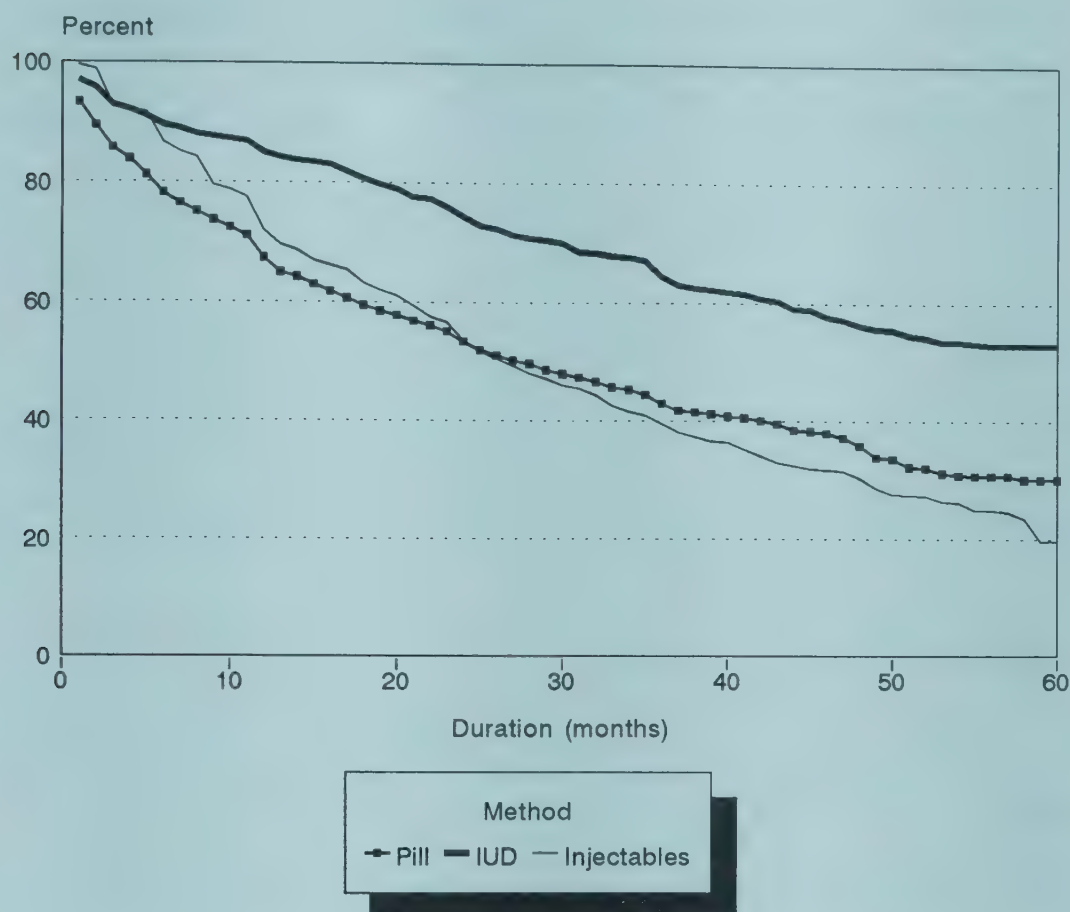
Table 5 Life table discontinuation rates and median duration of use for all reversible methods by background
characteristics, Indonesia, 1994

Background characteristic	12-month discontinuation rate	24-month discontinuation rate	Median duration of use	Number of segments of use
Area of residence				
Urban	29.2	44.6	29.0	4,811
Rural	25.4	39.7	35.5	10,239
Region				
Java-Bali	26.5	40.6	34.6	9,900
Outer Java-Bali I	26.7	43.1	30.7	3,653
Outer Java-Bali II	27.0	41.0	35.0	1,498
Education				
None/some primary	22.2	35.3	36.0+	5,357
Primary completed	26.6	41.1	34.5	4,863
Secondary +	31.6	48.3	24.8	4,831
Age				
15-29	29.4	45.1	28.5	10,879
30-49	19.1	30.9	36.0+	4,172
Contraceptive intent				
Spacer	29.8	45.9	27.0	11,090
Limiter	17.1	27.4	36.0+	3,942
Total	26.6	41.3	33.4	15,051

Age group differentials are pronounced—i.e., younger users have higher discontinuation rates than older users—
which may be related to contraceptive intent. Younger women tend to want to postpone future births (spacers)
while older women tend to want to prevent future births (limiters).

As shown in Table 6, differentials in method choice may account for some of the differentials in discontinuation
seen in Table 5 where all reversible methods were combined. Table 6 illustrates that the distribution of segments
across methods differs for different subgroups of users. Some of the differentials by age and contraceptive intent
in Table 5 may be explained by the fact that limiters are more likely to contribute segments of implant
use—which have very low discontinuation rates—than are spacers. Therefore, the lower discontinuation rate of
limiters may be partly due to the fact that they are more likely to choose long-term methods (or alternatively, the
low discontinuation rate of implants may be due to the fact that they are used by highly motivated limiters).

The pill is chosen more often by users who live in rural areas or in Outer Java-Bali I, users who have no education
or some primary education, and users who are age 15-29, than by other users. Injectables are chosen more often
by spacers than by limiters, as would be expected since injectables are used widely as a temporary method.
However, spacers and limiters are equally likely to contribute segments of pill use.

Table 6 Distribution of segments of use by method for selected subgroups of users, Indonesia, 1994

Background characteristic	Contraceptive method								Number of segments of use
	Pill	IUD	Inject-ables	Implant	Condom/ Intravag	Sterili-zation	Tradi-tional method	Total	
Area of residence									
Urban	30.1	13.9	36.9	3.6	4.5	3.4	7.7	100.0	4,980
Rural	35.2	10.7	36.1	10.2	0.9	2.2	4.7	100.0	10,474
Region									
Java-Bali	32.2	12.7	37.6	8.7	2.1	2.7	4.1	100.0	10,179
Outer Java-Bali I	36.7	10.0	33.2	6.5	1.8	2.5	9.2	100.0	3,747
Outer Java-Bali II	35.5	9.7	35.8	7.8	2.2	1.9	7.1	100.0	1,527
Education									
None/some primary	37.8	9.1	33.0	11.8	0.8	3.2	4.4	100.0	5,534
Primary completed	34.8	9.7	39.2	8.9	1.2	2.3	3.8	100.0	4,975
Secondary +	27.7	16.7	37.2	3.1	4.3	2.3	8.8	100.0	4,944
Age									
15-29	34.2	11.7	39.1	7.4	1.7	1.1	4.8	100.0	11,003
30-49	32.0	11.9	29.6	9.7	2.8	6.3	7.7	100.0	4,450
Contraceptive intent									
Spacer	33.4	12.1	39.3	6.5	1.9	1.2	5.6	100.0	11,225
Limiter	33.9	10.9	28.3	12.2	2.5	6.4	5.8	100.0	4,209
Total	33.6	11.7	36.6	8.1	2.0	2.6	5.6	100.0	15,453

Table 7 presents discontinuation rates and the median duration of use for the pill by background characteristics. The contraceptive intent differential in pill discontinuation is particularly large. As expected, pill discontinuation rates among women who are spacers are much higher than among limiters. The 24-month discontinuation rate of spacers is almost twice as high as that of limiters. The differential in discontinuation rates between age groups has the same pattern as contraceptive intent.

The 12-month discontinuation rate for the pill varies little by area of residence. However, for the 24-month discontinuation rate the differential is larger, with a higher discontinuation rate in urban areas than in rural areas.

Among the three regions, Outer Java-Bali I has lower discontinuation rates than the two other regions, both after 12 and 24 month of use. Java-Bali has the highest pill discontinuation rates. This may indicate that women in Java-Bali use the pill for spacing, or they may switch to another method more frequently.

The discontinuation rates for the pill by level of education show a positive association as in overall discontinuation rates for all reversible methods (Table 5).

Table 7 Life table discontinuation rates and median duration of use for the pill by background characteristics, Indonesia, 1994

Background characteristic	12-month discontinuation rate	24-month discontinuation rate	Median duration of use	Number of segments of use
Area of residence				
Urban	35.8	50.9	23.2	1,500
Rural	31.3	44.8	29.0	3,691
Region				
Java-Bali	35.2	48.5	25.2	3,274
Outer Java-Bali I	27.1	42.5	33.9	1,375
Outer Java-Bali II	31.4	45.7	28.2	542
Education				
None/some primary	27.4	40.6	36.0+	2,090
Primary completed	34.6	47.0	26.4	1,733
Secondary +	38.2	55.5	19.4	1,368
Age				
15-29	36.0	50.5	23.7	3,765
30-49	23.5	35.9	36.0+	1,426
Contraceptive intent				
Spacer	37.0	53.3	21.9	3,754
Limiter	20.4	28.0	36.0+	1,428
Total	32.6	46.6	27.4	5,190

Table 8 presents discontinuation rates and the median duration of use for the IUD by background characteristics. Women who want to delay future births are more likely to discontinue using the IUD than those who want to prevent the next birth. However, the median duration of use for both spacers and limiters is more than 36 months.

There is no difference between 12- and 24-month discontinuation rates by area of residence and region. But, the age group differential indicates that women age 15-29 have higher discontinuation rates than women age 30-49. Women who have completed primary education have a lower IUD discontinuation rate than other women.

Table 9 presents discontinuation rates and the median duration of use for injectables by background characteristics. The differential in the discontinuation rates between spacers and limiters is again pronounced. The 12- and 24-month discontinuation rates for women who are spacers are higher than for women who are limiters. Area of residence, on the other hand, has little effect on discontinuation rates.

Table 8 Life table discontinuation rates and median duration of use for the IUD by background characteristics, Indonesia, 1994

Background characteristic	12-month dis-continuation rate	24-month dis-continuation rate	Median duration of use	Number of segments of use
Area of residence				
Urban	14.7	23.1	36.0+	690
Rural	15.0	26.8	36.0+	1,123
Region				
Java-Bali	14.6	26.0	36.0+	1,290
Outer Java-Bali I	15.3	22.9	36.0+	375
Outer Java-Bali II	16.4	27.9	36.0+	148
Education				
None/some primary	13.9	25.9	36.0+	502
Primary completed	10.4	20.3	36.0+	485
Secondary +	18.5	28.4	36.0+	826
Age				
15-29	16.5	27.8	36.0+	1,283
30-49	11.2	19.8	36.0+	530
Contraceptive intent				
Spacer	16.6	27.2	36.0+	1,355
Limiter	9.7	20.3	36.0+	458
Total	14.9	25.5	36.0+	1,813

Table 9 Life table discontinuation rates and median duration of use for injectables by background characteristics, Indonesia, 1994

Background characteristic	12-month dis-continuation rate	24-month dis-continuation rate	Median duration of use	Number of segments of use
Area of residence				
Urban	29.4	48.6	24.6	1,838
Rural	27.2	45.2	27.9	3,778
Region				
Java-Bali	25.9	43.7	29.0	3,825
Outer Java-Bali I	33.1	54.4	22.1	1,244
Outer Java-Bali II	30.3	46.9	26.5	547
Education				
None/some primary	24.5	39.8	35.2	1,828
Primary completed	27.8	47.3	25.9	1,951
Secondary +	31.5	51.9	23.5	1,837
Age				
15-29	30.0	49.1	24.4	4,297
30-49	20.9	36.4	36.0+	1,319
Contraceptive intent				
Spacer	30.1	48.7	24.5	4,414
Limiter	19.3	36.0	36.0+	1,193
Total	27.9	46.3	26.5	5,616

Women age 15-29 are more likely to discontinue after 12 or 24 months of use than are older women. Just under one-third of segments of use among women age 15-29 are discontinued within 12 months of accepting injectables, while half of segments of use are discontinued within 24 months of use. At the same time, education differentials for discontinuation of injectables are similar to those observed for all reversible methods (see Table 5).

Contraceptive Discontinuation Rates and Reasons for Discontinuation

Analysis of the reasons why different groups of users discontinue different contraceptive methods can provide valuable insight into the advantages and disadvantages of different methods, which in turn can result in improved counseling and greater understanding of contraceptive use dynamics in the population. This analysis derives discontinuation rates at different durations of use, broken down by reason for discontinuation.

Table 10 shows 12-month discontinuation rates by reason for discontinuation by method. The 12-month discontinuation rate due to contraceptive failure is high for traditional methods. The 12-month discontinuation rate due desire to get pregnant is particularly high for the pill and condom/intravag methods.

Table 10 Life table 12-month discontinuation rates by reason for discontinuation by method, Indonesia, 1994

Method	Contraceptive failure	Desire to get pregnant	Side effects	Method-related reasons[1]	Other reasons	Total[2]
Pill	4.4	10.8	5.6	9.7	2.0	32.5
IUD	1.9	1.0	5.0	6.9	0.2	14.9
Injectables	1.7	4.8	8.0	12.0	1.4	27.8
Implant	0.3	0.1	1.8	2.2	0.0	4.4
Condom/Intravag	6.1	10.0	0.9	31.7	1.9	50.7
Traditional methods	11.4	7.0	0.1	10.7	2.6	31.8
All methods (including sterilization)	3.1	6.1	5.5	9.8	1.4	25.8
All reversible methods	3.2	6.2	5.6	10.0	1.4	26.5

[1]Includes IUD expelled, health concerns, inconvenient to use, cost, husband disapproved, want more effective method, access/availability.
[2]Rates are less than those in Table 4, column 1 because some missing values on reason for discontinuation were not included in this analysis.

Side effects are more likely to be a reason for discontinuation of injectables than other methods. Meanwhile, the 12-month discontinuation rate due to method-related reasons is very high for condom/intravag methods (31.7 percent). The discontinuation rate due to method-related reasons is also relatively high for injectables (12.0 percent).

The high discontinuation rate due to method-related reasons for condom/intravag methods is thought to be largely due to inconvenience of use; 24 percent of all discontinuations of condom use are due to inconvenience of use (see CBS et al., 1995: Table 7.2). Meanwhile, the relatively high discontinuation rate among injectables users due to method-related reasons is mainly due to health concern and, to a lesser extent, cost. Together, these two reasons account for about 27 percent of all discontinuations of injectables (see CBS et al., 1995: Table 7.2).

The main reason cited for discontinuing the pill within a year is in order to get pregnant. However, about 10 percent of pill users discontinue within a year due to method-related reasons. In contrast, the discontinuation rate for the IUD is highest for method-related reasons (7 percent), and it is thought that health concerns account for a large proportion of discontinuations for this reason.

Comparing cumulative discontinuation rates for different reasons across methods or subgroups of the population is sometimes difficult, since the overall discontinuation rate may vary. Examining the percentage breakdown of 12-month discontinuation rates by reason for discontinuation may, therefore, be useful. Figure 3 shows the percentage breakdown of 12-month discontinuation rates by reason for discontinuation, according to method. Method-related reason is the main reason for discontinuation among users of the IUD, injectables, implants and condom/intravag. Desire to get pregnant is a major reason for discontinuation among pill users. However, side effects also account for a large portion of first-year discontinuations of the IUD, injectables, and implants. Contraceptive failure is the main reason for discontinuation of traditional methods.

Figure 3.   Percent decomposition of 12-month discontinuation rates by reason for discontinuation, according to method, Indonesia, 1994
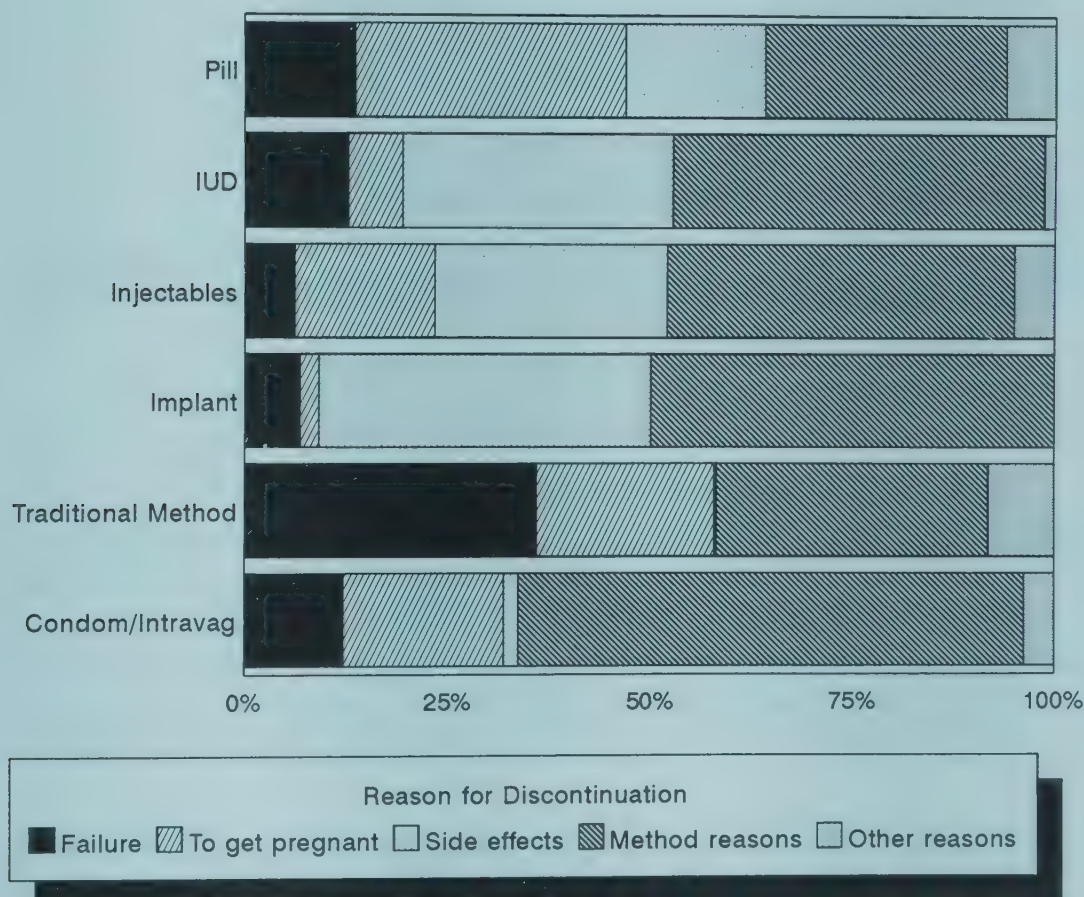
Table 11 presents the 12-month discontinuation rates for the pill by reason for discontinuation and background characteristics. Figure 4 shows the percentage breakdown of 12-month pill discontinuation rates by reason for discontinuation, according to background characteristics. Pill users in rural areas are most likely to discontinue using the pill in order to get pregnant (11 percent), but their discontinuation rate for this reason is just slightly above that of urban users (10 percent). The higher overall pill discontinuation rate for urban users is due to the higher discontinuation rate for method-related reasons and to the higher discontinuation rate due to contraceptive failure. Pill users who live in urban areas are most likely to discontinue using the pill within a year due to method-related reasons.

Table 11   Life table 12-month discontinuation rates for the pill by reason for discontinuation and background characteristics, Indonesia, 1994

Background characteristic	Contraceptive failure	Desire to get pregnant	Side effects	Method-related reasons[1]	Other reasons	Total
Area of residence						
Urban	6.3	10.1	4.2	12.4	2.3	35.2
Rural	3.6	11.1	6.1	8.6	1.9	31.4
Region						
Java-Bali	5.0	13.0	6.0	8.5	2.4	35.0
Outer Java-Bali I	3.4	6.6	4.7	10.8	1.5	27.0
Outer Java-Bali II	2.9	8.4	4.9	14.3	1.0	31.4
Education						
None/some primary	4.2	7.6	5.6	7.8	2.0	27.3
Primary completed	3.5	13.6	5.6	9.6	2.2	34.5
Secondary +	5.8	12.4	5.4	12.8	1.7	38.0
Age						
15-29	5.2	13.4	5.4	10.0	2.0	35.9
30-49	2.2	3.7	6.2	9.0	2.1	23.1
Contraceptive intent						
Spacer	4.8	14.8	5.4	9.7	2.3	36.9
Limiter	2.7	0.2	6.1	9.9	1.3	20.1
Total	4.4	10.8	5.6	9.7	2.0	32.5

[1]Includes IUD expelled, health concerns, inconvenient to use, cost, husband disapproved, want more effective method, access/availability.

The high 12-month discontinuation rate for pill users in the Java-Bali region is mainly due to desire to become pregnant (13 percent), while in Outer Java-Bali I and Outer Java-Bali II it is due to method-related reasons.

The most educated women generally discontinue pill use for method-related reasons or in order to get pregnant. The discontinuation rate for method-related reasons increases as education increases, and pill users with no education or some primary education are less likely to discontinue in order to get pregnant, which may in part reflect the fact that they are likely to be older.

Figure 4.   Percent decomposition of 12-month pill discontinuation rates by reason for
discontinuation, according to selected background characteristics, Indonesia, 1994
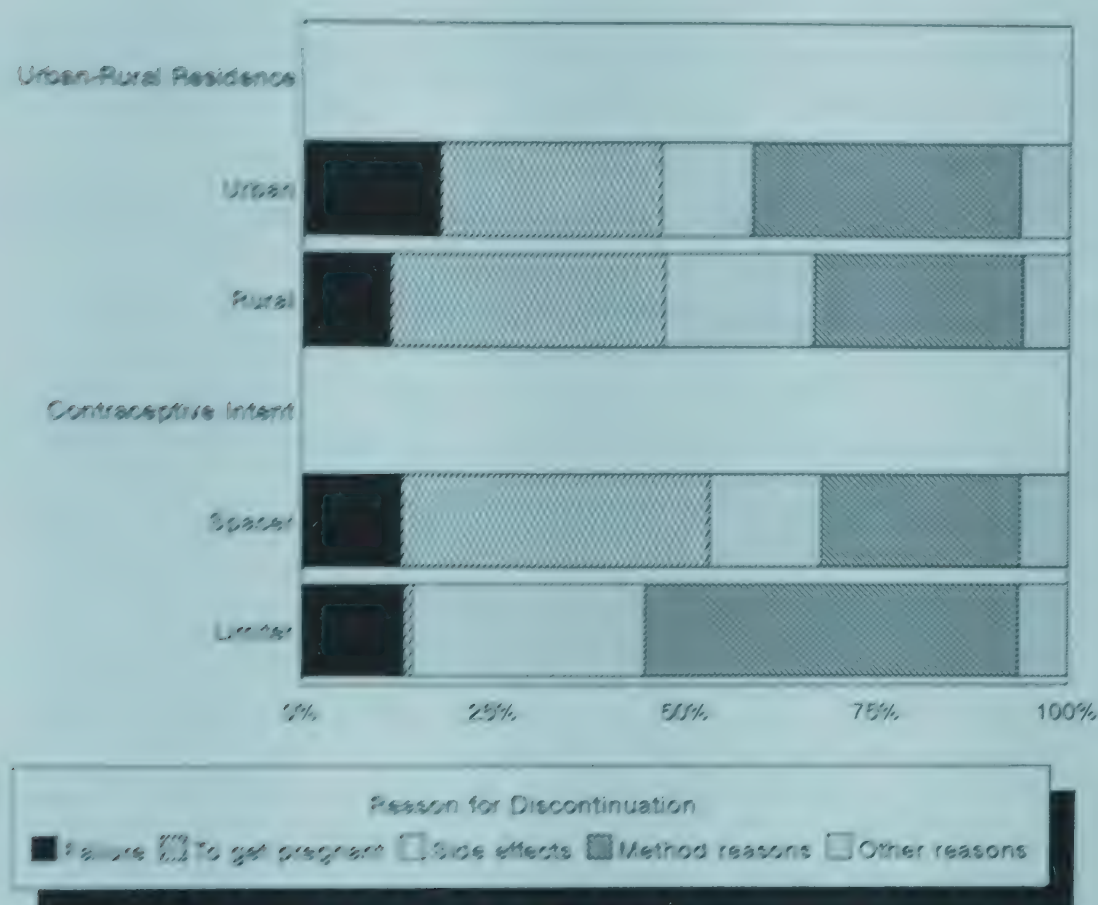
The differential in IUD discontinuation rates between spacers and limiters is large (see Table 12). The higher IUD discontinuation rate among spacers than among limiters is mainly due to the higher discontinuation rate for method-related reasons and, to a lesser extent, to the higher rate of discontinuation due to contraceptive failure and the higher rate of discontinuation in order to get pregnant among spacers. Figure 5 indicates that the main reason for discontinuing IUD use among spacers is method-related reasons, while side effects are the main reason for discontinuing use of the IUD among limiters.

Reason-specific 12-month IUD discontinuation rates are similar in urban and rural areas; the main reason for discontinuing is method-related reasons, followed by side effects.

Method-related reasons are also the main reason for IUD discontinuation in the three regions, but the discontinuation rate for that reason is highest in Outer Java-Bali II (10 percent) and lowest in Java-Bali (6 percent). The opposite pattern is seen for discontinuation rates due to side effects.

The higher IUD discontinuation rate among women with secondary or higher education than among less educated women is due to the higher discontinuation rate for method-related reasons and to the higher discontinuation rate due to contraceptive failure. IUD users with completed primary education have a particularly low discontinuation rate for side effects.

The reason for IUD discontinuation is related to the age of the user. Women age 15-29 report that the main reason for discontinuation within a year is method-related reasons, while women age 30-49 say that side effects are the main reason.

Table 12   Life table 12-month discontinuation rates for the IUD by reason for discontinuation and background characteristics, Indonesia, 1994

Background characteristic	Contraceptive failure	Desire to get pregnant	Side effects	Method-related reasons[1]	Other reasons	Total
Area of residence						
Urban	2.3	0.8	4.3	7.2	0.1	14.7
Rural	1.7	1.1	5.4	6.6	0.2	15.0
Region						
Java-Bali	2.0	0.7	5.7	6.1	0.1	14.6
Outer Java-Bali I	1.4	1.8	3.4	8.3	0.4	15.3
Outer Java-Bali II	2.2	1.0	2.7	10.0	0.2	16.1
Education						
None/some primary	0.4	1.3	5.9	5.7	0.6	13.9
Primary completed	1.2	1.1	2.4	5.7	0.0	10.4
Secondary +	3.4	0.7	6.0	8.4	0.0	18.4
Age						
15-29	2.2	0.9	5.1	8.1	0.2	16.4
30-49	1.2	1.1	4.9	3.8	0.2	11.2
Contraceptive intent						
Spacer	2.3	1.3	4.9	7.9	0.2	16.6
Limiter	0.6	0.1	5.2	3.6	0.1	9.7
Total	1.9	1.0	5.0	6.9	0.2	14.9

[1] Includes IUD expelled, health concerns, inconvenient to use, cost, husband disapproved, want more effective method, access/availability.

Figure 5.   Percent decomposition of 12-month IUD discontinuation rates by reason for discontinuation, according to selected background characteristics, Indonesia, 1994
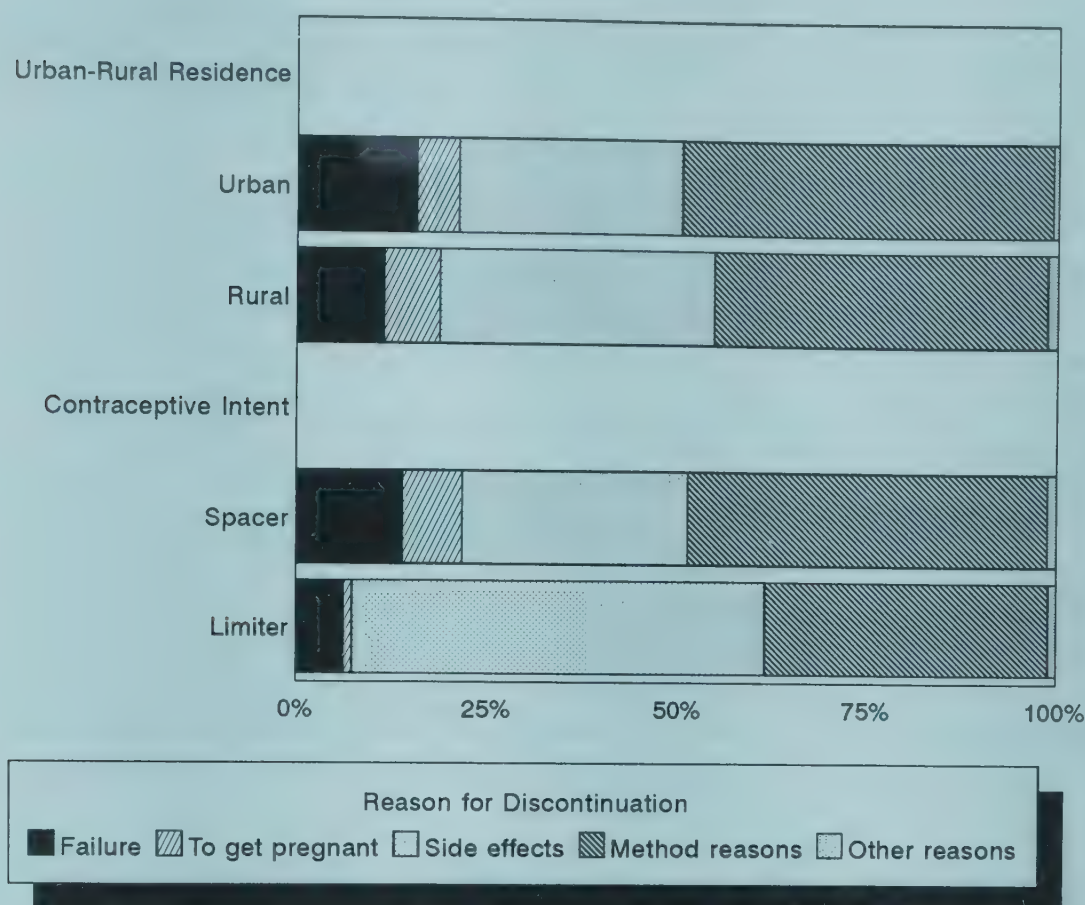

Table 13 presents 12-month discontinuation rates for injectables by reason for discontinuation and background characteristics; Figure 6 shows the percentage breakdown of 12-month injectables discontinuation rates by reason for discontinuation, according to background characteristics.

The differentials in the 12-month injectables discontinuation rates are most pronounced by contraceptive intent and age group. Limiters have lower discontinuation rates for injectables than spacers due mainly to lower discontinuation rate due to desire to get pregnant and, to a lesser extent, the lower discontinuation rates due to method-related reasons and side effects. However, among limiters, a higher proportion of the 12-month discontinuation rate is for method-related reason (see Figure 6). For both spacers and limiters, method-related reasons are the main reason for discontinuation. This is also true among users age 15-29 and 30-49, but the discontinuation rate for method-related reasons is particularly high among younger users. Reason-specific discontinuation rates are higher among younger women than among older women for all five reasons but, particularly due to method-related reasons, desire to get pregnant, and side effects.

Differentials by area of residence and region are negligible. The discontinuation rate due to desire to get pregnant and to side effects increases as level of education increases, which largely accounts for the increase in the overall 12-month discontinuation rate as education increases. Injectables users with completed primary education have a lower discontinuation rate for method-related reasons than do users who have less education or more education.

Table 13 Life table 12-month discontinuation rates for injectables by reason for discontinuation and background characteristics, Indonesia, 1994

Background characteristic	Contraceptive failure	Desire to get pregnant	Side effects	Method-related reasons[1]	Other reasons	Total
Area of residence						
Urban	1.9	3.4	9.9	13.4	0.8	29.4
Rural	1.5	5.5	7.0	11.3	1.7	27.1
Region						
Java-Bali	1.5	4.3	8.0	10.5	1.5	25.8
Outer Java-Bali I	2.3	6.0	8.3	15.3	1.2	33.1
Outer Java-Bali II	1.6	6.0	6.7	15.1	1.5	30.3
Education						
None/some primary	0.7	3.3	7.0	12.3	1.2	24.5
Primary completed	2.6	5.2	7.8	9.8	2.2	27.6
Secondary +	1.6	6.1	9.1	14.0	0.7	31.5
Age						
15-29	1.8	5.6	8.3	12.7	1.5	29.9
30-49	1.2	2.3	6.7	9.5	1.1	20.9
Contraceptive intent						
Spacer	1.8	6.1	8.3	12.3	1.5	30.0
Limiter	1.1	0.0	6.3	10.6	1.2	19.2
Total	1.7	4.8	8.0	12.0	1.4	27.8

[1]Includes IUD expelled, health concerns, inconvenient to use, cost, husband disapproved, want more effective method, access/availability.

Figure 6. Percent decomposition of 12-month injectables discontinuation rates by reason for discontinuation, according to selected background characteristics, Indonesia, 1994

Reason for Discontinuation
■ Failure ▨ To get pregnant ☐ Side effects ▨ Method reasons ☐ Other reasons

20
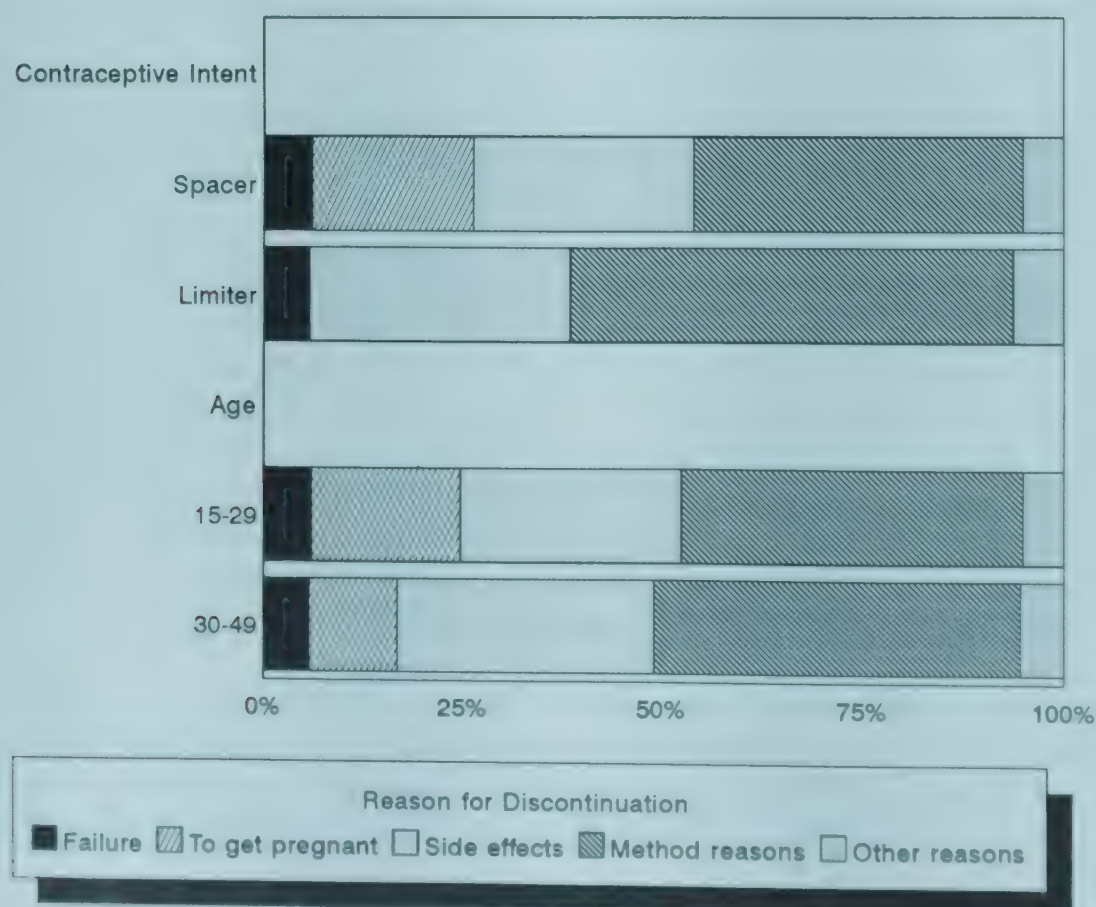
Contraceptive Switching Behavior

Contraceptive discontinuation and contraceptive switching behavior are closely related. In particular, the significance of contraceptive discontinuation for both fertility levels and individual women depends on switching behavior. If a woman discontinues use of a method because she experiences side effects and does not start using another method of contraception immediately, she is exposed to the risk of an unwanted pregnancy. In addition, the fact that the woman did not switch to another method may suggest that family planning services are not successfully meeting her needs. On the other hand, if the woman switched to another method immediately, the fertility implications are much less serious, although there may be an increased risk of unwanted pregnancy if her new method has higher failure rates than her original method. In designing and evaluating family planning policies, what women do after discontinuing a contraceptive method is equally as important as why they discontinue. This chapter will focus on whether different subgroups behave differently after discontinuation, particularly with respect to switching versus abandoning use.

Table 14 presents 12-month cumulative switching rates, while Figure 7 shows the percentage breakdown of 12-month discontinuation rates by status after discontinuation. The focus of attention is the behavior of users who discontinue use but still have a need for contraception. Overall, the rate of switching to another method is higher than the rate of abandoning use of all other methods. However, about 8 percent of pill users abandon use of contraception within a year of initiating use, while the same proportion of pill users switch to another method. Users of implant are more likely to abandon use than to switch to another method after discontinuation, although both rates are very low. On the other hand, although condom/intravag users are more likely to switch methods than abandon use, 11 percent abandon use within a year—higher than for any other method. Injectables users are about twice as likely to switch to another method after discontinuation as to abandon use.

Table 14   Life table discontinuation rates by status after discontinuation and method, Indonesia, 1994

Method	No need for contraception[1]	Need for contraception[2]		Total
		Switched to another method	Abandoned use	
Pill	16.8	7.9	7.9	32.6
IUD	3.0	8.2	3.6	14.9
Injectables	7.7	13.7	6.5	27.9
Implant	0.4	1.5	2.5	4.4
Condom/Intravag	17.9	21.8	11.0	50.7
Traditional methods	20.4	9.1	2.6	32.1
All methods (including sterilization)	10.3	9.6	6.0	25.9
All reversible methods	10.6	9.9	6.1	26.6

[1] Discontinuations for the following reasons: contraceptive failure, desire to get pregnant, infrequent sex, menopause, and marital dissolution.
[2] Based on the woman's contraceptive status in the month immediately after discontinuation.
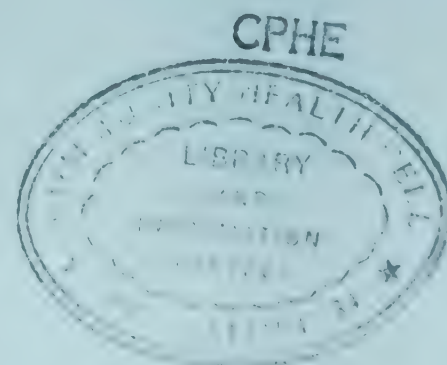
Figure 7. Percent decomposition of 12-month discontinuation rates by status after discontinuation, according to method, Indonesia, 1994

Status After Discontinuation
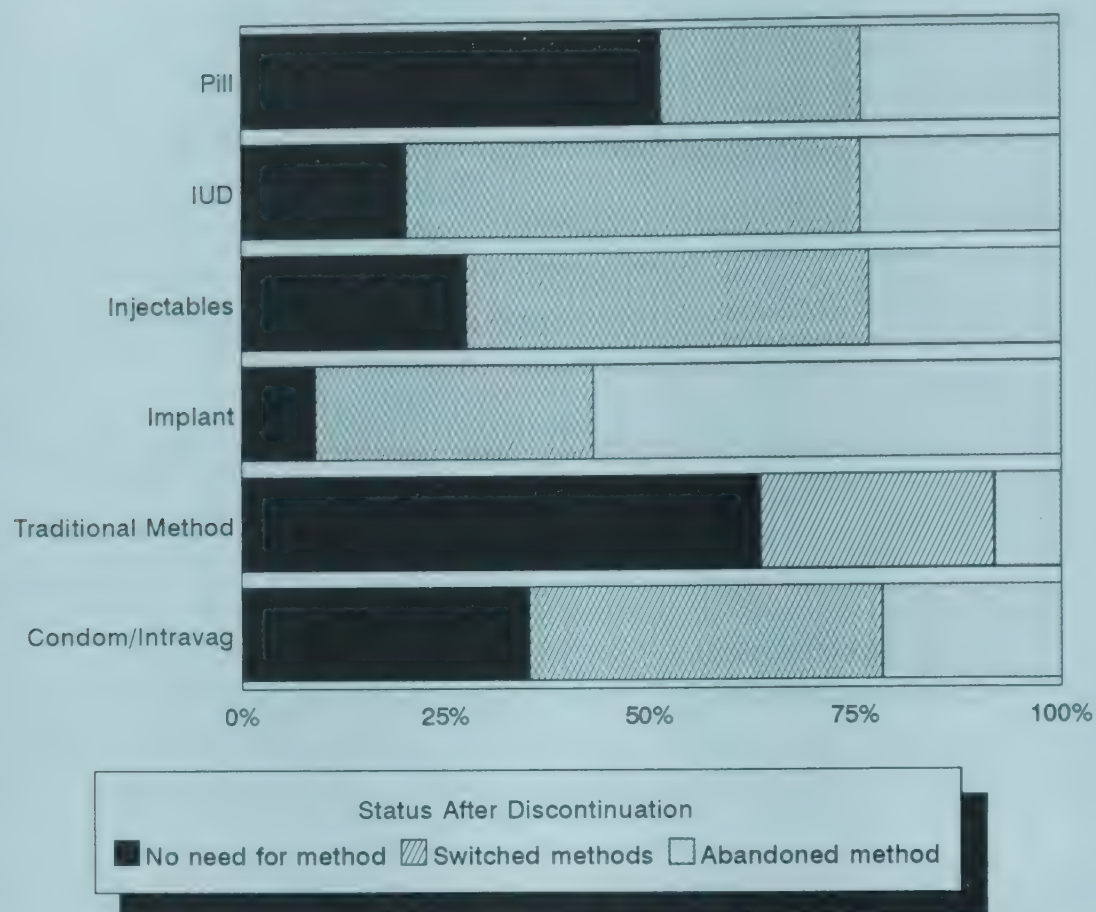■ No need for method ▨ Switched methods ☐ Abandoned method

Table 15 presents the 12-month cumulative switching rates for the pill by background characteristics. The overall discontinuation rate for the pill is 33 percent, and the percentage of pill users who switch to another method is the same as the percentage who abandon use (8 percent).

Type of residence does not affect discontinuation rates substantially for any of the three statuses after discontinuation. Pill users in every region mostly discontinue using the pill and do not use another method because they no longer need contraception. Nevertheless, about 11 percent of pill users in Outer Java-Bali II switch to another method within a year and pill users in Java-Bali are slightly more likely to abandon use than to switch methods.

As would be expected, the differentials for contraceptive intent indicate that women who are spacers are more likely to discontinue pill use and no longer need contraception, while limiters tend to switch to another method. Spacers who still need contraception are slightly more likely to abandon use than to switch methods, while the opposite is true among limiters. Nevertheless, 7 percent of limiters abandon use within a year, at least temporarily.

Education differentials indicate that educated users are more likely to switch methods within a year than are less educated users. This may suggest that, although they are more likely to discontinue for method-related reasons, they are also more likely to find an alternative method. Hence, educated women seem to be more willing to experi-

Table 15   Life table discontinuation rates for the pill by status after discontinuation and background characteristics, Indonesia, 1994

| Background characteristic | No need for contraception[1] | Need for contraception[2] | | Total |
		Switched to another method	Abandoned use	
Area of residence				
Urban	17.6	9.8	8.5	35.8
Rural	16.5	7.1	7.7	31.3
Region				
Java-Bali	19.9	6.7	8.5	35.2
Outer Java-Bali I	11.4	9.3	6.4	27.1
Outer Java-Bali II	12.1	11.3	8.0	31.4
Education				
None/some primary	13.6	5.7	8.2	27.4
Primary completed	18.8	8.0	7.7	34.6
Secondary +	19.3	11.1	7.7	38.2
Age				
15-29	20.2	8.1	7.7	36.0
30-49	7.6	7.3	8.6	23.5
Contraceptive intent				
Spacer	21.4	7.4	8.2	37.0
Limiter	3.9	9.1	7.3	20.4
Total	16.8	7.9	7.9	32.6

[1] Discontinuations for the following reasons: contraceptive failure, desire to get pregnant, infrequent sex, menopause, and marital dissolution.
[2] Based on the woman's contraceptive status in the month immediately after discontinuation.

ment with methods until they find a method that suits them. This may be due to greater awareness of the methods available or to greater ability to find alternative methods if they do not like the method they are using. However, about 8 percent of pill users abandon use within a year, although still in need of contraception, regardless of education level.

Women age 15-29 who discontinue using the pill are more likely to not need contraception than women age 30-49. This is because younger women usually use the pill for delaying future births, and either are pregnant or wish to become pregnant (see Table 11). However, pill users age 30-49 abandon use of contraceptive methods within a year more frequently than users age 15-29 and are more likely to abandon use than to switch methods.

Table 16 indicates that about 8 percent of IUD users switch to another method while about 4 percent abandon use. As shown previously in Table 12, the main reason for IUD discontinuation is method-related reasons; and it appears that most IUD users who discontinue within a year try to find another method that suits them. The 12-month switching rates are higher than the corresponding rates for the other two statuses in every subgroup studied. Education differentials show the same pattern as that found among pill users, i.e., the most educated women are more likely to switch to another method than women who have less education. This again suggests that educated women are more aware of the methods available and better able to find a method that suits them.

Table 16   Life table discontinuation rates for the IUD by status after discontinuation and background characteristics, Indonesia, 1994

| Background characteristic | No need for contraception[1] | Need for contraception[2] | | Total |
		Switched to another method	Abandoned use	
Area of residence				
Urban	3.2	8.5	3.1	14.7
Rural	2.9	8.1	4.0	15.0
Region				
Java-Bali	2.8	8.2	3.5	14.6
Outer Java-Bali I	3.6	8.7	3.1	15.3
Outer Java-Bali II	3.4	7.0	6.0	16.4
Education				
None/some primary	2.2	7.5	4.1	13.9
Primary completed	2.3	4.6	3.5	10.4
Secondary +	4.0	11.0	3.4	18.5
Age				
15-29	3.2	8.9	4.3	16.5
30-49	2.5	6.6	2.1	11.2
Contraceptive intent				
Spacer	3.8	8.6	4.3	16.6
Limiter	0.8	7.2	1.7	9.7
Total	3.0	8.2	3.6	14.9

[1] Discontinuations for the following reasons: contraceptive failure, desire to get pregnant, infrequent sex, menopause, and marital dissolution.
[2] Based on the woman's contraceptive status in the month immediately after discontinuation.

Differentials by area and region in status-specific IUD discontinuation rates are small, but the abandoned-use rate is quite high among women in Outer Java-Bali II, compared with Outer Java-Bali I and Java-Bali. Spacers and younger IUD users are also more likely than limiters and older women to abandon use within a year.

Table 17 presents the 12-month cumulative switching rates for injectables by background characteristics. The overall discontinuation rate for injectables is 28 percent, and 14 percent switch immediately to another method while 7 percent abandon use despite still needing contraception.

Urban women tend to switch to another method within a year more often than rural women. This may suggest that urban women have access to more information on contraceptives than rural women; which may lead to a greater awareness of contraceptive choices. However, urban women are slightly more likely than rural women to abandon using any method.

Women in Outer Java-Bali I are more likely to switch their method within a year than are women in other regions, while women in Outer Java-Bali II are slightly more likely to abandon contraceptive use than women in the other regions.

Table 17   Life table discontinuation rates for injectables by status after discontinuation and background
characteristics, Indonesia

Background characteristic	No need for contraception[1]	Need for contraception[2]		Total
		Switched to another method	Abandoned use	
Area of residence				
Urban	5.9	16.0	7.5	29.4
Rural	8.5	12.7	6.0	27.2
Region				
Java-Bali	7.1	12.8	6.0	25.9
Outer Java-Bali I	9.2	16.7	7.2	33.1
Outer Java-Bali II	8.5	13.7	8.2	30.3
Education				
None/some primary	4.9	11.7	7.9	24.5
Primary completed	9.8	13.1	4.9	27.8
Secondary +	8.3	16.5	6.7	31.5
Age				
15-29	8.7	14.7	6.5	30.0
30-49	4.3	10.2	6.4	20.9
Contraceptive intent				
Spacer	9.1	14.1	6.9	30.1
Limiter	2.2	12.2	4.9	19.3
Total	7.7	13.7	6.5	27.9

[1] Discontinuations for the following reasons: contraceptive failure, desire to get pregnant, infrequent sex, menopause, and marital dissolution.
[2] Based on the woman's contraceptive status in the month immediately after discontinuation.

Education differentials in injectables switching behavior have the same pattern as the two methods discussed previously: educated women are more likely than less educated women to switch to another method. However, the abandoned-use rate is lowest among women with completed primary education.

Younger users are more likely to switch to another method (15 percent) than are older users (10 percent). However, there is no age difference in the abandoned-use rate within 12 months.

Spacers are more likely than limiters to switch to another method. Table 17 also shows that the abandoned-use rate of any method is higher for women who are spacers (7 percent) than for those who are limiters (5 percent).

Contraceptive Failure Rates

Contraceptive failure may occur either because the method itself fails or because the method is used incorrectly or inconsistently. Method, or clinical, failure rates attempt to measure failure under ideal conditions with perfect use, and are primarily useful for clinical evaluation of contraceptive methods. Use failure rates attempt to measure contraceptive failure rates in the population under the prevailing conditions of use. This latter measure is more useful from a program perspective and is the type of failure that DHS surveys attempt to measure. Contraceptive

failure results directly in unwanted pregnancies and contributes to fertility if the pregnancy is not aborted. High failure rates may indicate weaknesses in the family planning program in providing information about correct use of methods. Examination of differentials in contraceptive failure rates helps to identify groups of users who have difficulty using particular methods effectively.

Table 18 presents the gross 12-month failure rate[1] for each method and for all methods and all reversible methods combined, together with their 95 percent confidence intervals.

There is no difference between the overall 12-month failure rate for all reversible methods and for all methods combined, because sterilization is not widely used in Indonesia and contributes only a small proportion of segments of use.

Table 18   Life table 12-month gross failure rates and 95 percent confidence intervals by method, Indonesia, 1994

Method	Failure rate	95 percent confidence interval	
		Lower bound	Upper bound
Pill	5.2	4.4	6.0
IUD	2.1	1.3	2.8
Injectables	1.9	1.5	2.3
Implant	0.3	0.0	0.7
Condom/Intravag	8.4	4.5	12.4
Traditional methods	13.0	10.4	15.5
All methods (including sterilization)	3.5	3.1	3.9
All reversible methods	3.6	3.2	4.0

As would be expected, failure rates do vary significantly across methods. The most effective methods are implants, injectables, and the IUD. The 12-month failure rate for implants is significantly lower than any other method. The failure rate of the IUD is not significantly higher than the failure rate of injectables. Therefore, its effectiveness is similar to that of injectables. The pill is significantly less effective, but its failure rate is significantly lower than that of traditional methods. It is also lower than the condom/intravag failure rate, but the difference is not statistically significant. This is partly due to the wide confidence interval associated with the condom/intravag failure rate. Traditional methods and condom/intravag methods are more likely to be used improperly, which contributes to their high failure rates, compared with other methods.

Table 19 presents the 12-month gross failure rates for the pill by background characteristics together with 95 percent confidence intervals. The pill failure rate is higher among users in urban area, among users in the Java-Bali region, women with secondary or higher education, women age 15-29, and spacers. Note that the differences by area, age, and contraceptive intent are statistically significant. Pill users in the Java-Bali region have a higher failure rate than users in the two other regions, but the difference is not quite statistically significant. On the other hand, the failure rates in Outer Java-Bali I and Outer Java-Bali II are almost the same; both rates are low and the difference is not statistically significant.

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[1] Gross failure rates, calculated using an Associated Single Decrement Life Table, are more appropriate than the net failure rates presented in the section, "Contraceptive Discontinuation Rates and Reasons for Discontinuation," for the comparison of failure rates because they control for the level of discontinuation for other reasons. As such, they represent the "underlying" rate of failure.

Table 19   Life table 12-month gross failure rates of the pill and 95 percent confidence intervals by background characteristics, Indonesia, 1994

Background characteristic	Failure rate	95 percent confidence interval	
		Lower bound	Upper bound
Area of residence			
Urban	7.4	5.8	9.0
Rural	4.3	3.5	5.1
Region			
Java-Bali	6.1	5.1	7.0
Outer Java-Bali I	3.9	2.7	5.1
Outer Java-Bali II	3.5	1.8	5.3
Education			
None/some primary	4.7	3.8	5.7
Primary completed	4.2	3.1	5.4
Secondary +	7.3	5.5	9.0
Age			
15-29	6.3	5.3	7.2
30-49	2.5	1.6	3.5
Contraceptive intent			
Spacer	5.9	4.9	6.9
Limiter	3.0	2.0	4.0
Total	5.2	4.4	6.0

Less educated pill users have lower failure rates than the most educated users. However, the difference is statistically significant only between women with secondary or more education and women with completed primary education. This finding is contrary to expectation and may suggest that attention should be given to educated women, since it appears that the level of education does not assure that women take pills properly. However, it is also possible that highly educated women are younger and hence more fecund than less educated women, which makes them more prone to contraceptive failure. In addition, educated women may report contraceptive failure more completely than less educated women. The failure rate among women who never attended school or who only attended primary school for a few years is the same as that among women who completed primary school.

Table 20 presents the 12-month gross failure rates for the IUD by background characteristics together with 95 percent confidence intervals. The effectiveness of the IUD in urban areas is not significantly different from that in rural areas. Similarly, the effectiveness of the IUD does not vary significantly among regions.

Table 20   Life table 12 month gross failure rates of the IUD and 95 percent confidence intervals by background
characteristics, Indonesia, 1994

Background characteristic	Failure rate	95 percent confidence interval	
		Lower bound	Upper bound
Area of residence			
Urban	2.4	0.8	4.0
Rural	1.8	1.1	2.6
Region			
Java-Bali	2.2	1.4	3.0
Outer Java-Bali I	1.5	0.1	2.9
Outer Java-Bali II	2.4	0.0	5.2
Education			
None/some primary	0.5	0.0	1.1
Primary completed	1.2	0.2	2.2
Secondary +	3.7	2.3	5.1
Age			
15-29	2.4	1.4	3.4
30-49	1.3	0.3	2.2
Contraceptive intent			
Spacer	2.5	1.6	3.5
Limiter	0.7	0.0	1.5
Total	2.1	1.3	2.8

The 12-month IUD failure rate of well-educated women (secondary or more) is significantly higher than that of their less educated counterparts. This difference may be because educated women tend to be younger and more fecund, or because they tend to report failures more accurately than less educated women (since there is little scope for error in IUD use). The 12-month failure rate is not statistically higher among users who are age 15-29 than among women age 30-49, but spacers experience a significantly higher 12-month IUD failure rate than limiters.

Table 21 presents the 12-month gross failure rates for injectables by background characteristics together with 95 percent confidence intervals. As presented in Table 18, the total injectables failure rate is 1.9 percent which is slightly lower than the IUD failure; however, the differences are small and not statistically significant.

Table 21 indicates that the 12-month injectables failure rate ranges from 0.8 among users with no education or incomplete primary education to 2.9 percent among users with completed primary education. The differentials in the failure rate by background characteristics are small and are not statistically significant, except that the failure rate among less educated women (none/some primary) is significantly lower than the failure rate among more educated women.

Table 21   Life table 12-month gross failure rates of injectables and 95 percent confidence intervals by background
characteristics, Indonesia, 1994

Background characteristic	Failure rate	95 percent confidence interval	
		Lower bound	Upper bound
Area of residence			
Urban	2.2	1.4	3.0
Rural	1.8	1.4	2.2
Region			
Java-Bali	1.6	1.2	2.0
Outer Java-Bali I	2.7	1.5	3.9
Outer Java-Bali II	1.9	0.0	3.3
Education			
None/some primary	0.8	0.0	1.2
Primary completed	2.9	2.1	3.7
Secondary +	1.9	1.2	2.7
Age			
15-29	2.0	1.5	2.6
30-49	1.4	0.6	2.2
Contraceptive intent			
Spacer	2.1	1.5	2.7
Limiter	1.2	0.0	1.9
Total	1.9	1.5	2.3

Summary and Conclusions

Contraceptive discontinuation and method switching are becoming increasingly important issues in Indonesia now that contraceptive prevalence has reached 55 percent. This analysis has utilized the calendar data from the 1994 IDHS to examine this issue in some detail. The 1994 calendar data appear to be of high quality and show that 27 percent of all Indonesian contraceptive users discontinue use of their method within a year of initiating use. Discontinuation rates are highest for condom/intravag and lowest for implants. The main reasons for discontinuing use vary across methods: failure is the main reason for discontinuing use of traditional methods while method-related reasons such as health concerns or inconvenience of use dominate for IUD, injectables, implants, and condom/intravag. Desire for pregnancy is the main reason for pill discontinuation followed closely by method-related reasons. In general, women who still need contraception are more likely to switch to another method after discontinuation than to stop using altogether but a significant minority of women do discontinue all contraceptive use within a year and there is relatively little variation in the rate of abandoning use after discontinuation of pill, IUD, or injectables by background characteristics. These women are of particular policy interest because their failure to adopt a new method of contraception exposes them to the risk of unwanted pregnancy, at least temporarily, and may indicate shortcomings in the family planning program in meeting their needs.

Contraceptive failure rates show significant variation by method. Twelve-month failure rates are lowest for implants followed by the IUD and injectables, intermediate for the pill, and highest for condom/intravag and traditional methods. Area of residence, age, and contraceptive intent all significantly affect pill failure rates.

Urban users, young users, and those who are trying to space births rather than prevent births all experience higher pill failure rates. Spacers also experience a significantly higher 12-month IUD failure rate. Younger women are more likely to be spacing births and are likely to be more fecund, which would make them more prone to contraceptive failure. Urban users are also likely to be younger than rural users.

An initially surprising finding of the analysis is that discontinuation rates for the pill, IUD, and injectables tend to be higher among the most educated women than among those less educated. This is due to the higher rate of discontinuation of these methods for method-related reasons and, among pill users, in order to become pregnant. However, educated women are more likely than less educated women to switch methods after discontinuation, which suggests that they may be more aware of their contraceptive options or may be more able to find out about alternative methods if they experience problems with their method. Educated women also experience significantly higher failure rates for the pill, IUD, and injectables. This may reflect the fact that educated women are likely to be younger and, therefore, more fecund, or it may indicate better reporting of contraceptive failure among educated women.

In conclusion, this analysis has provided some useful insights into contraceptive discontinuation and method-switching behavior in Indonesia which will be of interest to family planning policymakers in the country. Health concerns appear to be an important issue for the most popular modern methods (i.e., the pill, IUD, and injectables). Also, the minority of women who discontinue use within a year and do not switch to another method warrant special attention.

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